

Application / Control Number: 10/809,719

Paper Dated: January 30, 2009

In Reply to USPTO Patent Examiner Andrew Nguyen mail dated 12/24/08 and 10/27/08
and USPTO telecom 01/29/09

Docket Number: 2003-04

AMENDMENTS TO THE CLAIMS

Claims 1 – 16 (previously canceled)

Claim 17. (currently amended). A gas turbine engine for generating electricity, comprising:
an engine body; a #2 rotor spool within said engine body, having an integral alternator
rotor with retained permanent magnets, a bladed compressor rotor having an air inlet and exit
and a bladed turbine rotor having a gas inlet and exit; an electrical stator within said
engine body, having electrical wire, laminats of magnetically attracted material, and
said stator is coaxially about and in close proximity of the said alternator rotor \where
relative rotation to the said stator inner diameter causes flux change and subsequent
electricity generation within the said wires; a combustion system within the said engine
body, receives compressor discharge air from the said #2 rotor spool, bladed compressor
rotor exit for combusting supplied fuel and delivering of combusted gas energy to the
[said power] #2 rotor spool bladed turbine rotor; a #1 rotor spool within said engine
body, having a bladed compressor rotor with an air inlet and exit, a compressor rotor
shaft and a bladed turbine rotor with a gas inlet and exit; an air intake in said engine
body with communication to said #1 rotor spool compressor inlet; a #1 rotor spool
turbine gas discharge duct within said engine body having fluid communication with said
#1 rotor spool turbine rotor exit; a ducting means to deliver the said #1 rotor spool
compressor rotor exit pressurized air flow to the inlet of the said #2 rotor spool
compressor rotor inlet; a ducting means to deliver said #2 spool turbine rotor exiting gas
energy to the said #1 rotor spool turbine rotor inlet.

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Claim 18. (currently amended) A gas turbine engine for generating electricity, as claimed in claim 17 wherein the said ducting means to deliver the said #1 rotor spool compressor rotor exit pressurize air flow to the inlet of the said #2 rotor spool compressor rotor inlet incorporates a **[variable area fluid flow control] air flow control valve** device.

Claim 19. (currently amended). A gas turbine engine for generating electricity, comprising: an engine body; a #2 rotor spool within said engine body, having an alternator rotor with retained permanent magnets, a bladed compressor rotor having an air inlet and exit and a bladed turbine rotor having a gas inlet and exit; an electrical stator within said engine body, having electrical wire, laminats of magnetically attracted material, and said stator is coaxially about and in close proximity of the said alternator rotor where relative rotation to the said stator inner diameter causes flux change and subsequent electricity generation within the said wires; a combustion system within the said engine body, receives compressor discharge air from the said **[power] #2** rotor spool, bladed compressor rotor exit for combusting supplied fuel and delivering of combusted gas energy to the said #2 rotor spool turbine rotor; a #1 rotor spool within said engine body, having a bladed compressor rotor with an air inlet and exit, a compressor rotor shaft and a bladed turbine rotor with a gas inlet and exit; an air intake in said engine body with communication to said #1 rotor spool compressor inlet; a turbine gas discharge duct within said engine body having fluid communication with said #1 rotor spool, turbine rotor exit; a ducting means to deliver the said #1 rotor

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spool compressor rotor exit pressurized air flow to the inlet of the said #2 rotor

spool compressor rotor inlet; a ducting means to deliver said #2 spool turbine rotor exiting
gas energy to the said #1 rotor spool turbine rotor inlet; a bearing - seal housing assembly
having a rotor bearing and rotor shaft labyrinth seal, within said engine body; furthermore
the said bearing-seal housing assembly is positioned coaxially about the said #2 rotor spool
between the alternator rotor and **[power] #2 rotor** spool compressor inlet; **said bearing -
seal housing assembly and said #2 rotor spool together as a module is insertable to the
said engine body.**

Claim 20. (canceled).

Claim 21. (previously presented) A gas turbine engine for generating electricity, as
claimed in claim 19, wherein a oil squeeze film damper is incorporated between the said
bearing-seal housing assembly outer diameter and the adjacent inner diameter of the said
engine body .

Claim 22. (canceled).

Claim 23. (currently amended). A gas turbine engine for generating electricity as claimed
in claim 19, wherein oil squeeze film dampers are incorporated in both the said bearing - seal
housing assembly outer diameter **to adjacent engine body inner diameter** and the said
retained rotor bearing outer diameter within the said bearing-seal housing assembly **creating
radially staged oil squeeze film dampers.**

Claim 24. (currently amended). A gas turbine engine for generating electricity as
claimed in claim **[19] 17** wherein the said ducting means to deliver said **[turbo charger]
#1 rotor spool** compressor rotor exit, pressurized airflow to the said **[power] #2 rotor**

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spool compressor rotor inlet, a vaneless scroll flow area is incorporated to induce [an]
a tangential air flow preswirl to the said #2 rotor spool compressor inlet.

Claim 25. (currently amended). A gas turbine engine for generating electricity as claimed
in claim [19] 17 wherein the combustion system heat source is from external means and
there is no combustion within the engine body air fluid flow path comprising : a heat
exchanger having one of two sides of the heat exchanger with non-combusted air fluid flow
communication between the receiving said #2 spool compressor flow exit air and delivery of
heat energy air flow supply to the said #2 spool turbine rotor gas inlet.

Claim 26. (currently amended). A gas turbine engine for generating electricity, as
claimed in claim 19 wherein the said shaft seal, labyrinth type outer diameter has resilient
o-ring retention-sealing means in the said bearing –seal housing.

Claim 27. (canceled).

Claim 28. (currently amended) A gas turbine engine for generating electricity as
claimed in claim 19, wherein the said #1 rotor spool having a rotor shaft and compressor
rotor, incorporates an air supply channel thru the said compressor rotor to deliver
compressor discharge air as a buffer air means to the said bearing-seal housing retained
rotor shaft labyrinth seal.

Claim 29. (Canceled)

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Claim 30. (Canceled)

Claim 31. (Canceled)

Claim 32. (Canceled)

Claim 33. (currently amended) A gas turbine engine for generating electricity, comprising: an engine body; a #2 rotor spool in said engine body, having an alternator rotor with retained permanent magnets, a bladed compressor rotor and a bladed turbine rotor; an electrical stator having electrical wire and laminats with magnetically attracted material, wherein said stator is coaxially about and in close proximity to the said alternator rotor and relative rotation to the said stator inner diameter causes flux change and subsequent electricity generation within the said electrical wire; a combustion system within the said engine body, receives compressor discharge air from said compressor bladed rotor for combusting supplied fuel and delivery of combusted gas energy to the said power rotor spool turbine rotor; a #1 rotor spool within said body having a compressor rotor with blades, a shaft and turbine rotor with blades; a ducting means to deliver the said #1 rotor spool compressor rotor pressurized exit air flow to the inlet of the said #2 rotor spool compressor rotor air inlet; a series of supplemental air tangent start nozzles within said engine body, in close proximity of the outboard end of the said power spool compressor rotor to impinge starting fluid on the exiting blade surface areas; a means to duct supplemental air to the said start nozzles for power rotor spool rotation start means; an internal combustion system within said engine body having fluid communication with said supplemental start **[fluid] air** exiting flow from the said #2 rotor spool compressor rotor; **said start air is used also for early**

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combustion F/A mixing prior to developed compressor rotor flow.

Claim 34. (Canceled)

Claim 35. (currently amended). A gas turbine engine for generating electricity, comprising: an engine body; a #2 rotor spool within said engine body, having an alternator rotor with retained permanent magnets, a bladed compressor rotor having an air inlet and exit and a bladed turbine rotor having a gas inlet and exit; an electrical stator within said engine body, having electrical wire, laminats of magnetically attracted material, and said stator is coaxially about and in close proximity of the said alternator rotor where relative rotation to the said stator inner diameter causes flux change and subsequent electricity generation within the said wires; a combustion system within the said engine body, receives compressor discharge air from the said #2 rotor spool, bladed compressor rotor exit for combusting supplied fuel and delivering of combusted gas energy to the said power rotor spool turbine rotor; a #1 rotor spool within said engine body, having a bladed compressor rotor with an air inlet and exit, a compressor rotor shaft and a bladed turbine rotor with a gas inlet and exit; an air intake in said engine body having fluid communication to said #1 rotor spool compressor inlet; a turbine gas discharge duct within said engine body having fluid communication with said #1 rotor spool, turbine rotor exit; a ducting means to deliver the said #1 rotor spool compressor rotor exit pressurized air flow to the inlet of the said #2 rotor spool compressor rotor inlet; a ducting means to deliver said #2 spool turbine rotor exiting gas energy to the said #1 rotor spool turbine rotor inlet; a #1 rotor spindle sleeve

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assembly, having outer oil seals, at least one rotor thrust bearing and rotor shaft labyrinth seal retained and within said engine body; a #1 rotor spool having a compressor rotor shaft, compressor rotor with blades and turbine rotor with blades is insertable into the said rotor spindle sleeve assembly; a rotor thrust bearing, inner diameter retained to the said #1 rotor spool compressor shaft; a rotor retainer means, wherein one end is axially thread adjustable retained to the said engine body and the other end coacts axially restrictive between the said compressor shaft retained thrust bearing outer race and one inboard end of the said rotor spindle sleeve assembly; a #1 spool module consisting of the said rotor spindle sleeve, said #1 rotor spool and said rotor retainer device; and furthermore **the said #1 spool module is axially insertable into the engine body thru the compressor housing**.

Claim 36. (currently amended) A gas turbine engine for generating electricity as claimed in claim[34] **35**, wherein the said #1 spool module having at least one said rotor bearing outside diameter within the said rotor spindle sleeve assembly, incorporates oil squeeze film dampening between at least one rotor bearing outer race and said rotor spindle adjacent inner diameter; **said rotor spindle sleeve assembly outer diameter co-acts with the engine body inner receiving diameter and incorporates an oil squeeze film damper.**

Claim 37. (canceled).